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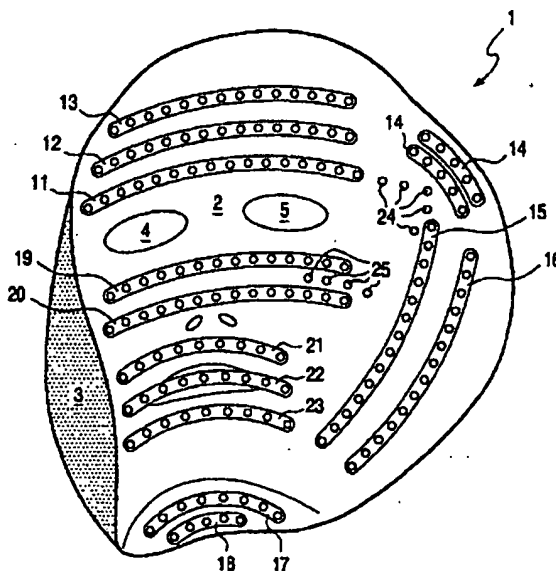
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: MESSAGE DEVICE



(57) Abstract: A massage device comprising an active surface provided with at least one active element that can be placed on an underlying part of the body. According to a preferred embodiment, the active element is chosen from at least one of the group consisting of: a) a mechanically vibrating element and b) an electrically stimulating element. This provides a very active stimulation of the skin and the body in general.

WO 2004/004625 A1

Massage device

The present invention relates to a massage device. More particularly, the invention relates to a massage device, which is suitable for the active stimulation of the skin.

5 Massage devices are generally known in practice. In the Dutch patent NL 1,004,358, for example, a massage device is described, which is suitable for massaging the skin. To this end the known device comprises a rotatable rod-like element that is provided with projections. These
10 projections can be brought into contact with the skin of a user. The form of the known device is such that when, for example, the feet are massaged, the entire sole of the foot can be treated by the device.

 That known device provides a good massage action.
15 Even so, this device is capable of improvement. It is therefore the object of the invention to provide an improved massage device while facilitating its use.

 It is also an object of the invention to provide a massage device that is able not only to massage the skin
20 but that by means of using various massage techniques is able also to provide an active stimulation of internal organs.

 In general, the object of the invention is to provide a massage device making it possible to effectively
25 treat the body in a simple manner.

 In order to attain at least one of the above-mentioned objectives, the invention provides a massage device, comprising an active surface to be placed on a body, provided with at least one active element that can be
30 placed on the underlying part of the body.

 The invention relates in particular to such a massage device, wherein the active element is chosen from at least one of the group consisting of: a) a mechanically

vibrating element and b) an electrically stimulating element.

The device according to the invention provides a simple manner of stimulating the skin.

5 Surprisingly it has been shown, that apart from stimulating the skin, which considerably improves, among other things, its blood circulation, there are also other positive effects. The invention will now be described mainly with reference to a preferred embodiment, wherein
10 the active surface of the massage device substantially takes the form of a mould of a face. For the sake of convenience and clarity such an embodiment is used as starting point, although the invention is not limited thereto.

The massage device according to the invention may
15 combine a number of different types of massage techniques. By combining both the mechanically vibrating elements and the electrically stimulating elements a combination of reflex zone therapy, transcutaneous electroneuro-stimulation and vibromassage is obtained.

20 According to a preferred embodiment, the active surface comprises a pliable material. This allows the massage device to be placed on several places on the body while good contact with the skin is assured.

According to a further preferred embodiment, the
25 device comprises an energy supply, preferably an electrical source, for example a battery or an adapter for the lighting mains. When operating the device in such a manner, there is no need for any manual activity. This adds considerably to a user's convenience.

30 According to a further embodiment, the elements a) are provided on the active surface at positions that correspond with acupressure points. The effects obtained by using the device in accordance with such an embodiment are very good.

35 According to a further preferred embodiment, the elements b) are provided at positions that correspond with electroneuro-stimulating points. This also produces very good effects.

In a further preferred embodiment the elements a) and b) are suitable for, respectively, the mechanical and electrical stimulation of reflex zones. Practice has shown that with such an embodiment very good overall results can be obtained with respect to the well-being of the user.

It is especially preferred for the elements b) to be suitable for transcutaneous electroneuro-stimulation.

A device in the form of a facial mask was shown to provide especially good results.

One embodiment enjoying preference is comprised of a device whose surface coming into contact with a body surface is fabricated from an electrically conductive plastic. Such plastics are well-known in the art.

Finally, it is preferred for the device to comprise a control unit for adjusting the intensity of the action of the elements a) and/or b). In this way the massage device can be adjusted as desired. If a user has a sensitive skin, the intensity can be reduced. If there is less sensitivity, or if the device is used on parts where the skin of the user is thicker, for example the palm of the hand and the sole of the foot, the intensity may be increased.

The invention will now be elucidated with reference to a preferred embodiment. This embodiment is not intended to limit the protective scope of the invention, but merely serves as illustration.

Fig. 1 shows a perspective view of one embodiment of the invention.

Fig. 2 shows a side view of a mechanically stimulating element for use in a device according to Fig. 1.

Fig. 3 shows a face indicating the pressure points where the elements of a facial mask in accordance with Fig. 1 induce stimulation.

Figs. 4A and 4B show a specific embodiment of the device according to the invention.

In the drawing Fig. 1 shows a massage device 1 in the form of a facial mask. The inward side 2 of the device 1 is placed on the face of a user. To this end the device

1 is substantially formed as a mould of a face. The outward side 3 of the device 1 may have any desired shape and is of no importance in the context of this invention.

At the inward side 2, the device 1 comprises a plurality of elements. When the device 1 is placed on a face, the elements 11, 12, 13 are positioned at the height of the forehead. The element 14 is positioned at the height of the temple. At the left-hand side (not shown in this Figure) a similar element 14 is positioned so as to be placed against the left temple of a user. The elements 15, 16 are placed against the cheek of a user.

The elements 17, 18 are placed against the underside of the chin.

Correspondingly, the elements 19, 20 are placed on the front of the face at the height of and at both sides of the nose, whereas the elements 21, 22, 23 are positioned just above and below the mouth.

Obviously, the elements 11-23 may be placed at other positions, so as to treat other parts of the facial skin.

In the embodiment shown in Fig. 1, the positions of the eyes 4, 5 are left free from elements. In this way the user will be able to enjoy a suitable degree of rest while using the device.

The massage device 1 as depicted in Fig. 1 also shows active elements 24, 25. In this Figure only the elements 24, 25 are visible at the right-hand side of the mask. However, these may be provided in a corresponding manner at the left-hand side of the device. Other positions than those shown here are of course also applicable.

It is preferred for the elements 11-23 to be mechanically vibrating elements. During use of the device, these vibrating elements provide oscillations, which are imparted to the skin on which the elements are placed. In this way active stimulation of the skin takes place.

The elements 24, 25 in the embodiment shown are, for example, electrically stimulating elements. Such elements may, for example, consist of magnetic material so as

to provide a passive stimulation of the skin. It is, however, also possible to connect the electrically stimulating elements with a current source so as to apply a very weak electric current to the skin. In this way an active stimulation of the skin is provided.

The massage device 1 may further be provided with an energy supply, preferably an electric power source (not shown). This electric power source can supply energy to the vibrating elements so as to enable them during use to provide the massage action. Such an energy supply can also provide the power supply to the elements 24, 25.

In order to allow the device to be used at different locations, the power supply consists preferably of a battery. However, a direct connection with a lighting mains, for example by means of a net adapter, is also possible.

The massage device 1 may be manufactured from a relatively rigid material, so that the same is highly form-retentive. However, in order to render the massage device 1 suitable for faces of various sizes and shapes, it is preferred to manufacture the massage device 1 from a flexible material. This makes the device 1 suitable to be used by several persons.

A particular preferred embodiment is formed by a massage device 1 which is modelled to the face of the user. To this end a mould of the user's face may be made. On the basis of the model obtained, a mask may then be fashioned. In that case the desired massage points can be determined very accurately. In Fig. 3 the massage points are indicated.

Practice has shown that in addition to providing a very good blood circulation of the treated skin, the massage device 1 according to the invention also has a favourable effect on the organs in the body. The reason for this is not altogether obvious. It is possible that by means of the mechanically vibrating elements the invention provides a kind of reflex zone therapy and vibromassage correction. Perhaps the electrically stimulating elements

are able to provide a transcutaneous electroneuro-stimulation. Such a treatment is known in traditional Chinese medicine as well as in other forms of so-called traditional medicine.

5 According to those forms of medicine, the face and the ears in particular possess numerous small acupressure and reflex zone points, which characteristically have their projection in the brain. They correspond zone-wise with vital glands, organs and tissue systems. By means of
10 a focussed, pressure-applying, for example, vibrating massage of the respective zone, a favourable influence may be exerted on the organ or tissue corresponding with that zone.

 By means of the transcutaneous electroneuro-
15 stimulation certain nerve fibres are stimulated. Via the electrical stimulation, moreover, signals are transmitted to the brain promoting the release of certain substances, for example, endorphins. As a result of this, a general feeling of well-being is generated.

20 According to traditional forms of medicine, massaging certain points of the head have a stimulating effect on the brain, the eyes, the ears and on the face in general. This massage may be applied to all parts of the face. In addition, it stimulates many internal organs, as
25 mentioned above.

 Acupressure in particular improves the muscle tone in the facial muscles, provides a healthy blood circulation, smoothes the skin, promotes the breakdown of fat and ensures that there is a better distribution of accumulated subcutaneous fat. This results in a probable "rejuvenation" of the facial skin due to the skin becoming
30 firmer. This is possibly the result of an improved cross circulation.

 It is therefore preferred for the mechanically
35 vibrating elements on the active surface to be positioned so as to correspond with acupressure points.

 It is therefore also preferred for the electrically stimulating elements on the active surface to be po-

sitioned so as to correspond with electroneuro-stimulating points.

According to still a further preference, the electrically stimulating and mechanically vibrating elements are positioned such that they stimulate reflex zones while also being suitable for transcutaneous electroneuro-stimulation. Since different people have different skin structures, it is preferred for the massage device 1 according to the invention to comprise a control unit (not shown) with which the intensity of the action of the mechanically vibrating and electrically stimulating elements can be adjusted. It is particularly preferred for the elements 11-23 of the massage device 1 to be adjustable individually or per area. For example, the elements 11, 12 and 13 may then possibly provide a stronger massage action than the elements 17, 18. It is preferred for all the other groups of elements or all the individual elements also to be adjustable independently.

Fig. 2 shows a side view of an element 11-23 according to the invention. Clearly shown are the rod-like projections 26, of which an end 28 facing away from the base 27 can be placed against the skin of a user. When using such an element, the base 27 may be provided with a mechanical vibration, which vibration will be transmitted to the skin via the rod-like projections 26. These elements are preferably fabricated from an electrically conductive material, so as to allow electrical currents to be conducted to the skin via these elements. According to a particular preferred embodiment, the elements are made from an electrically conductive plastic. This produces a very pleasant effect for the user.

Figs. 4A and 4B show a simplified schematic view from below of an automatic neck adaptation. To this end the figures show a neck portion 29 of the facial mask according to Fig. 1. This portion 29 covers the massage points on the neck, as schematically indicated in Fig. 3. In Figs. 4A and 4B the projections 26 of the element 17 are shown. In the context of the invention, the term mas-

sage points denotes the points that are in contact with the elements of the device, that implement the reflex zone therapy, transcutaneous electroneuro-stimulation and/or vibromassage. The surface 31 of the neck portion 29 shown in Figs. 4A and 4B adapts to the form of the neck 30 of a user when the same presses the surface 31 against his or her neck. Fig. 4A shows the starting position, while Fig. 4B shows the position when the surface 31 is pressed against the neck 30. The surface 31 is made from a flexible material. The surface 32 is made from a rigid material, which will substantially not bend when a force is exerted on surface 31, for example, when the surface 31 is pressed against a neck 30. The lateral surfaces 33, 34 are relatively rigid and are able to pivot or bend around the points 35 or 36, respectively. Consequently, when a neck is pressed against the surface 31, this surface 31 will bend and assume the form of the neck. This provides a good contact between the device and the intended massage points.

Hereinbefore the invention has been expounded with reference to a preferred embodiment. The invention is not limited to a massage device 1 in the form of a facial mask. For example, it may be provided in the form of a mat, which may be placed on various parts of a human body. By fabricating the entire device 1 from a resilient material, it is also possible to obtain an active massage for the soles of the feet.

Other embodiments that are obvious to a person skilled in the art but have not been explicitly described heretofore or illustrated in the Figures, also fall within the scope of this invention. The invention is limited by the appended claims only.

CLAIMS

1. A massage device, **characterised** in that it comprises an active surface provided with at least one active element that can be placed on an underlying part of
5 the body.

2. A massage device according to claim 1, **characterised** in that the active element is chosen from at least one of the group consisting of: a) a mechanically vibrating element and b) an electrically stimulating ele-
10 ment.

3. A massage device according to claims 1-2, **characterised** in that the active surface is substantially formed as a mould of a face.

4. A massage device according to claims 1-3,
15 **characterised** in that the active surface comprises a pliable material.

5. A massage device according to claims 1-4, **characterised** in that it comprises an energy supply, preferably an electrical source, for example a battery or an
20 adapter for the lighting mains.

6. A massage device according to claims 1-5, **characterised** in that the elements a) are provided on the active surface at positions that correspond with acupres-
sure points.

25 7. A massage device according to claims 1-6, **characterised** in that the elements b) are provided on the active surface at positions that correspond with electro-neuro-stimulating points

8. A massage device according to claims 1-7,
30 **characterised** in that it comprises elements a) and b), which are suitable for, respectively, the mechanical and electrical stimulation of reflex zones.

9. A massage device according to claims 1-8, **characterised** in that the elements b) are suitable for
35 transcutaneous electroneuro-stimulation.

10. A massage device according to claims 1-9,
characterised in that the same also comprises a control
unit for adjusting the intensity of the elements a) and/or
b).

5 11. A massage device according to claims 1-10,
characterised in that the same comprises an automatic neck
adjustment.

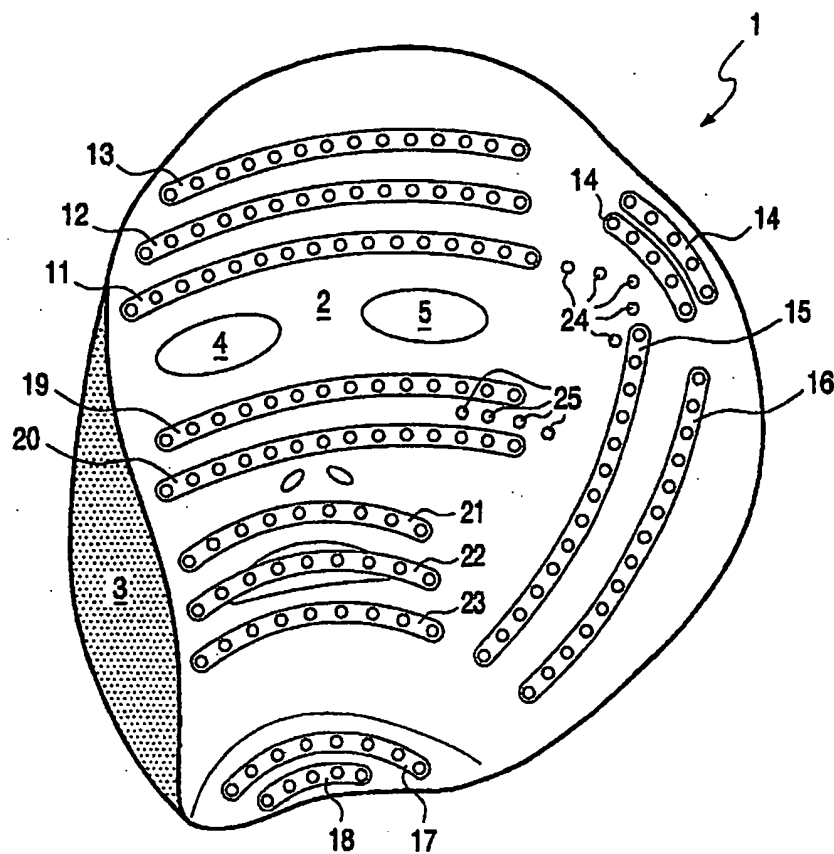


FIG. 1

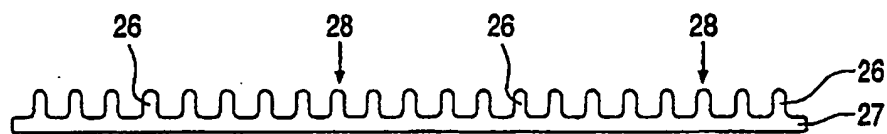


FIG. 2

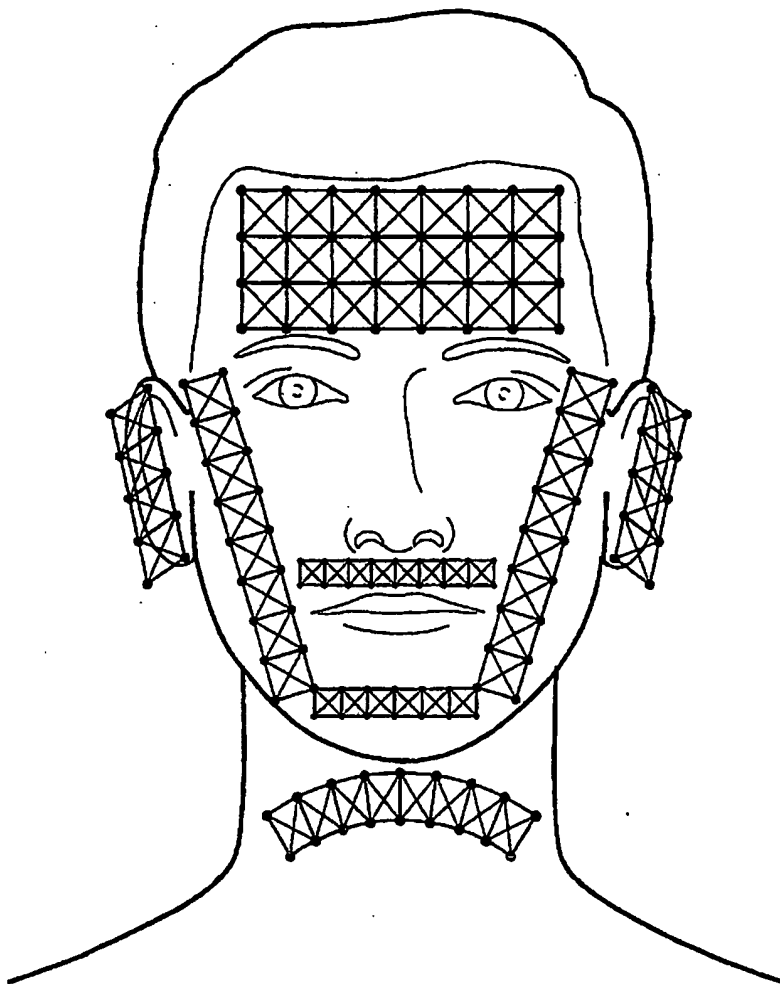


FIG. 3

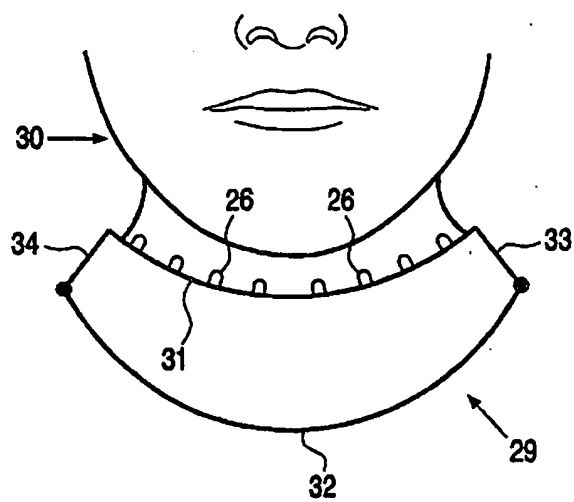


FIG. 4A

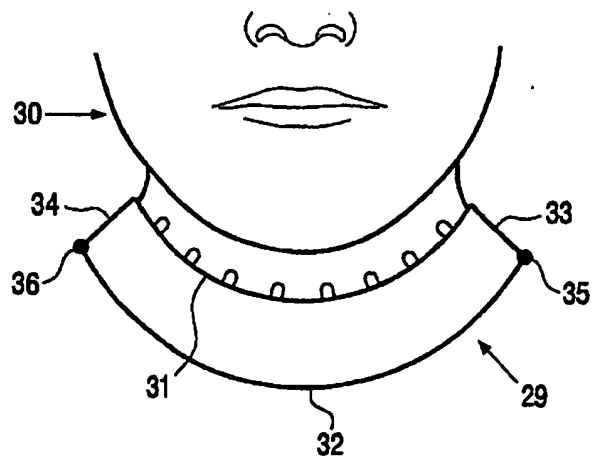


FIG. 4B

INTERNATIONAL SEARCH REPORT

PCT/NL 03/00502

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61H23/02 A61H39/00 A61N1/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61H A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2 689 006 A (WU AN CHUAN) 1 October 1993 (1993-10-01) page 5, line 34 -page 6, line 2; claim 2 abstract; figures	1-5,7,9, 10
X	EP 0 544 544 A (STONE ROSS G) 2 June 1993 (1993-06-02) column 5, line 22 -column 6, line 2 column 7, line 52 -column 8, line 15; figures	1,2,5-10
X	GB 2 205 755 A (FOLEY FRANCIS CHARLES PAUL) 21 December 1988 (1988-12-21) page 12, line 16 - line 21 abstract; figures	1-3
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex

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'Z' document member of the same patent family

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INTERNATIONAL SEARCH REPORT

PCT/NL 03/00502

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 1 488 770 A (AN CHUAN WU) 12 October 1977 (1977-10-12) the whole document	1-5
X	US 5 072 724 A (MARCUS JOSEPH) 17 December 1991 (1991-12-17) abstract; figures	1-5
X	EP 0 778 017 A (BONKE CHRISTOPH DR) 11 June 1997 (1997-06-11) abstract; figures	1,2,5,7, 9

INTERNATIONAL SEARCH REPORT

PCT/NL 03/00502

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2689006	A	01-10-1993	FR 2689006 A3	01-10-1993
EP 0544544	A	02-06-1993	CA 2083686 A1	28-05-1993
			DE 69224358 D1	12-03-1998
			DE 69224358 T2	18-06-1998
			EP 0544544 A1	02-06-1993
			US 5569166 A	29-10-1996
			US 6132392 A	17-10-2000
GB 2205755	A	21-12-1988	NONE	
GB 1488770	A	12-10-1977	HK 21078 A	28-04-1978
			MY 23178 A	31-12-1978
US 5072724	A	17-12-1991	NONE	
EP 0778017	A	11-06-1997	DE 29519551 U1	25-01-1996
			EP 0778017 A2	11-06-1997